

SRM ACM Student Chapter, India, - Invited Lecture

Cognitive Heuristics for Commonsense Thinking and Reasoning in the next generation Artificial Intelligence



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About the Presentation

Commonsense reasoning is one of the main open problems in the field of Artificial Intelligence (AI) while, on the other hand, seems to be a very intuitive and default reasoning mode in humans and other animals. In this talk, we discuss the different paradigms that have been developed in AI and Computational Cognitive Science to deal with this problem (ranging from logic-based methods, to diagrammatic-based ones). In particular, we discuss - via two different case studies concerning commonsense categorization and knowledge invention tasks - how cognitively inspired heuristics can help (both in terms of efficiency and efficacy) in the realization of intelligent artificial systems able to reason in a human-like fashion, with results comparable to human-level performances.

About the Speaker

Dr. Antonio Lieto is a researcher in Artificial Intelligence and Cognitive Science at the Department of Computer Science of the University of Turin (Italy) and a research associate at the ICAR-CNR Institute in Palermo (Italy). Previously, (2016-2017) he was Research Associate and Scientific Consultant at the MEPhI (National Research Nuclear University, Moscow, Russia) and Adjunct Professor and Post-doc researcher (2012-2018) at the Department of Computer Science of the University of Turin. He received his Ph.D. in 2012 by the University of Salerno with a thesis concerning the problem of "non classical" conceptual representation and reasoning in formal ontologies. He has been Visiting Researcher at the University of Haifa (Israel), Carnegie Mellon University (USA) and Lund University (Sweden).

His research focuses on the following areas: Knowledge Representation and Automated Reasoning, Commonsense Reasoning, Semantic/Language Technologies, Cognitive Systems and Architectures, Persuasive Technologies. On these topics he has published more than 70 papers in international conferences, journals and books.

Since 2015 he is a member of the IEEE Technical Committee on Cognitive Robotics and he is currently Vice-President of the Italian Association of Cognitive Sciences (AISC, 2017-2022), Deputy Editor in Chief of JETAI (Journal of Experimental and Theoretical Artificial Intelligence, Taylor & Francis) and Associate Editor for Cognitive Systems Research (Elsevier). He regularly serves in the PC of the main AI and Cognitive Science conferences (IJCAI, ECAI, AAI, COGSCI).

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